

## REMARKS

This Amendment is submitted in response to the non-final Office Action mailed on February 2, 2009. No fee is due in connection with this Amendment. The Director is authorized to charge any additional fees which may be required, or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 112857-517 on the account statement.

Claims 1-14 are pending in this application. In the Office Action, Claims 1-5, 7-10 and 12-14 are rejected under 35 U.S.C. §103. In response, Claims 1, 8, 12 and 14 have been amended, Claims 2-5 and 7 have been canceled and Claims 15-16 have been newly added. The new Claims do not add new matter. At least in view of the amendments and/or for the reasons set forth below, Applicants respectfully submit that the rejections should be withdrawn.

Applicants note that Claim 12 has been amended solely for clarification purposes. This amendment does not add new matter. The amendment is supported in the Specification at, for example, page 1, paragraph 7, lines 1-3; paragraph 8, lines 1-6; paragraph 9, lines 19-24; paragraph 10, lines 1-6; page 3, paragraph 41; pages 5-6, paragraph 43, lines 9-17.

In the Office Action, Claims 1-5, 7-10 and 12-14 are rejected under 35 U.S.C. §103(a) as being unpatentable over Japanese Patent Publication No. 10-3990 to Nakamura et al. ("*Nakamura*") in view of "White-light-emitting organic electroluminescent devices based on interlayer sequential energy transfer," *Applies Physics Letters* Vol. 75, No. 7 to Forrest et al. ("*Forrest*"). In response, Applicants have amended independent Claims 1, 8 and 14. At least in view of the amendments and/or for the reasons set forth below, Applicants respectfully submit that, even if combinable, the cited references fail to disclose or suggest each and every element of independent Claims 1, 8 and 14.

Currently amended independent Claims 1 and 14 recite, in part, an organic EL device comprising an anode, a cathode, and an organic layer including a plurality of light emitting layers provided between the anode and the cathode, wherein said light emitting layers comprise a red light emitting layer provided on the anode, a green light emitting layer provided directly on the red light emitting layer, and a blue light emitting layer provided directly on the green light emitting layer, wherein said red light emitting layer has a hole transporting property, said green light emitting layer has a positive and negative charge transporting property, and said blue light

emitting layer has an electron transporting property.

Similarly, currently amended independent Claim 8 recites, in part, an organic EL device comprising an organic layer including a plurality of light emitting layers, said organic layer interposed between an anode and a cathode, wherein said light emitting layers comprise a red light emitting layer, a green light emitting layer, and a blue light emitting layer laminated in respective order from the anode side, and wherein said red light emitting layer has a hole transporting property, said green light emitting layer has a positive and negative charge transporting property, and said blue light emitting layer has an electron transporting property. The amendments do not add new matter. The amendments are supported in the Specification at, for example, Abstract, lines 10-15; page 1, paragraph 8, lines 1-2; paragraph 9, lines 1-7; paragraph 10, lines 1-4; page 2, paragraph 12, lines 1-3; paragraph 15, lines 1-7; page 3, paragraphs 41-42; page 4, paragraph 49, lines 1-4; pages 4-5, paragraph 50, lines 1-11; page 5, paragraph 54, lines 1-3; paragraph 55, lines 1-6; paragraph 63, lines 1-8. In contrast, even if combinable, the cited references fail to disclose every element of the present claims.

For example, the cited references fails to disclose or suggest an organic EL device comprising a red light emitting layer, a green light emitting layer, and a blue light emitting layer, wherein said green light emitting layer has a positive and negative charge transporting property and said blue light emitting layer has an electron transporting property as recited, in part, by independent Claims 1, 8 and 14. The Patent Office asserts that *Nakamura* discloses that: (1) its red light emitting layer has a hole transporting property; (2) its green light emitting layer has a positive and negative charge transporting property; and (3) its blue light emitting layer has an electron transporting property. See, Office Action, page 3, lines 19-22. However, the portion of *Nakamura* relied on by the Patent Office merely discloses a blue fluorescent layer containing blue fluorescent material in the blue luminescent material, a red fluorescent layer containing a red fluorescent material in the blue luminescent material, and a green layer containing a green fluorescent material in the blue luminescent material or in the blue green luminescent material. See, *Nakamura*, pages 10-11, paragraphs 11-13. Nowhere does *Nakamura* disclose that the green fluorescent layer has a positive and negative charge transporting property and the blue fluorescent layer has an electron transporting property.

To the contrary, the lamination order of the layers of *Nakamura* indicates that the blue fluorescent layer has a hole transporting property and the red fluorescent layer has an electron transporting property. *Nakamura* teaches that “the B/G/R/ laminate order is B/G/R/ from the light discharge side.” See, *Nakamura*, page 12, paragraph 18, line 8. *Nakamura* further discloses that a hole-injecting layer and an electron-injecting layer are included in its organic EL element. See, *Nakamura*, page 12, paragraph 18, lines 1-4. As shown in Fig. 1, the blue fluorescent layer 31 is in contact with the hole-injecting layer 34, and the red fluorescent layer 33 is provided in contact with the electron-injecting layer 35. See, *Nakamura*, Fig. 1. One of ordinary skill in the art would thus understand that: (1) the blue fluorescent layer has a hole transporting property, rather than an electron transporting property; and (2) the red fluorescent layer has an electron transporting property, rather than a hole transporting property. This is in direct contrast to the present claims. See, Specification, page 1, paragraphs 7-8.

Furthermore, the one working example of *Nakamura* merely discloses that the blue fluorescent layer contains a 40:1 weight ratio mixture of DPVBi to DPAVBi. See, *Nakamura*, page 69, lines 8-12. Although DPVBi may have an electron transporting property, DPVBi doped with other compounds can have hole transporting properties instead. See, Specification, page 4, paragraph 46 (DPVBi alone has electron transporting properties); page 6, paragraph 70 (DPVBi doped with 30% BSN is a red light emitting layer with a hole transporting property). Nowhere does *Nakamura* disclose that its blue light emitting layer has an electron transporting property. With respect to the green light emitting layer, *Nakamura* merely discloses that the green light emitting layer may contain coumarin, an electron transporting material, or a quinacridone/DPVBi mixture. See, *Nakamura*, page 45, paragraphs 95-96; page 69, lines 12-15. Nowhere does *Nakamura* disclose that its green light emitting layer has both a positive and negative charge transporting property. Therefore, *Nakamura* fails to disclose a green light emitting layer with a positive and negative charge transporting property and a blue light emitting layer with an electron transporting property in accordance with the present claims.

*Forrest* also fails to disclose a green light emitting layer with a positive and negative charge transporting property and a blue light emitting layer with an electron transporting property. *Forrest* is entirely directed to an OLED comprising a hole-injection layer, a hole transport layer doped with red light emitting material, a hole blocking layer, and a green light

emitting layer. See, *Forrest*, p. 889, paragraph 1. Nowhere does *Forrest* disclose a blue light emitting layer, nor does the Patent Office cite support for such claimed element. Furthermore, the green light emitting layer of *Forrest* is merely an electron transporting AlQ3 layer. See, *Forrest*, p. 889, paragraph 1; p. 890, paragraph 3. Nowhere does *Forrest* further disclose that the green light emitting layer has a positive or hole transporting property. In fact, *Forrest* discloses that the green light emitting layer only contains AlQ3. See, *Forrest*, p. 889, paragraph 1. AlQ3 is an electron transporting material, not a hole transporting material. See, *Forrest*, p. 890, paragraph 3; Specification, page 5, paragraph 61, lines 1-3. The green light emitting layer of *Forrest* therefore has only a negative charge transporting property. Thus, even if combinable, the cited references fail to disclose an organic EL device comprising a red light emitting layer, a green light emitting layer, and a blue light emitting layer, wherein said green light emitting layer has a positive and negative charge transporting property and said blue light emitting layer has an electron transporting property as required, in part, by the present claims.

Moreover, Applicants respectfully submit that one of ordinary skill in the art would have no reason to combine *Nakamura* with *Forrest* to arrive at the present claims because *Nakamura* teaches away from providing the red light-emitting layer on the anode as disclosed by *Forrest* and the present claims. In this regard, references must be considered as a whole and those portions teaching against or away from each other and/or the claimed invention must be considered. *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve Inc.*, 796 F.2d 443 (Fed. Cir. 1986). "A prior art reference may be considered to teach away when a person of ordinary skill, upon reading the reference would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the Applicant." *Monarch Knitting Machinery Corp. v. Fukuhara Industrial Trading Co., Ltd.*, 139 F.3d 1009 (Fed. Cir. 1998), quoting, *In re Gurley*, 27 F.3d 551 (Fed. Cir. 1994).

*Nakamura* is entirely directed to an organic EL device in which the blue, green and red light emitting layers (B/G/R) are laminated in that order from the anode side. See, *Nakamura*, page 12, paragraph 18, line 8; Fig. 1. The only independent claim in *Nakamura* recites that the blue, green and red luminescent layers are laminated "in successive order" from the top of a substrate/the anode side. See, *Nakamura*, Claim 1. *Nakamura* expressly teaches that the B/G/R laminated order "is preferred from the standpoint of less light reabsorption." See, *Nakamura*,

page 12, paragraph 18, lines 8-9. As such, *Nakamura* teaches away from providing the red, green and blue light emitting layers laminated in the order of R/G/B from the anode or light discharge side of the device.

In contrast, the present claims are entirely directed to an organic EL device in which the red, green and blue light emitting layers are laminated in that order from the anode side. See, Specification, Abstract, lines 1-10; page 1, paragraph 6. By providing the red, green and blue light emitting layers in this order from the anode side, the emission efficacy of the device is higher and the half life of luminance is longer as compared to devices, such as that disclosed by *Nakamura*, in which the light emitting layers are laminated in the order of blue, green and red (B/G/R) from the anode side. See, Specification, page 1, paragraph 7, lines 11-20. As admitted by the Patent Office, *Forrest* also teaches a red light emitting layer provided on the anode side of an OLED. See, Office Action, page 4, lines 10-13; *Forrest*, p. 889, paragraph 1. Therefore, *Nakamura* teaches away from providing the red light emitting layer on the anode side of an organic EL device as taught by *Forrest* and the present claims.

Accordingly, Applicants respectfully request that the rejection of Claims 1-5, 7-10 and 12-14 under 35 U.S.C. §103(a) to *Nakamura* and *Forrest* be withdrawn.

In the Office Action, Claim 11 is rejected under 35 U.S.C. §103(a) as being unpatentable over *Nakamura* in view of *Forrest* and further in view of U.S. Patent No. 6,198,217 to Suzuki et al. ("*Suzuki*"). Applicants respectfully submit that, even if combinable, the cited references fail to disclose or suggest each and every element of Claim 11.

As discussed previously, *Nakamura* and *Forrest* fail to disclose or suggest an organic EL device comprising a red light emitting layer, a green light emitting layer, and a blue light emitting layer, wherein said green light emitting layer has a positive and negative charge transporting property and said blue light emitting layer has an electron transporting property as required, in part, by independent Claim 1 from which Claim 11 depends. The Patent Office relies on *Suzuki* merely as support for incorporating a protective layer into the organic EL device of *Nakamura* as required, in part, by Claim 11. See, Office Action, page 6, lines 3-10. Thus, Applicants respectfully submit that, even if properly combinable, *Suzuki* fails to remedy the deficiencies of *Nakamura* and *Forrest* with respect to Claim 11.

Accordingly, Applicants respectfully request that the rejection of Claim 11 under 35 U.S.C. §103(a) to *Nakamura*, *Forrest* and *Suzuki* be withdrawn.

Applicants further note that Claims 15-16 have been newly added. The new Claims are fully supported in the Specification at, for example, page 2, paragraph 13, lines 1-6; paragraph 24, lines 1-6; page 5, paragraph 57, lines 1-5; page 8, paragraphs 79-80. No new matter has been added thereby. Applicants respectfully submit that the subject matter as defined in the newly added claims is patentable over the cited art for at least substantially the same reasons as discussed above.

Specifically, with respect to Claim 16, Applicants note that Claim 6 has been rewritten in independent form as Claim 16. The Patent Office admits that Claim 6 would be allowable if rewritten in independent form. See, Office Action, page 6, lines 13-15. As such, Applicants respectfully submit that newly added Claim 16 is patentable over the prior art of record.

For the foregoing reasons, Applicants respectfully submit that the present application is in condition for allowance and earnestly solicit reconsideration of same.

Respectfully submitted,

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